

# **EXHIBIT 16**



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# Transcript of Hearing

**Date:** March 22, 2023  
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Transcript of Hearing  
Conducted on March 22, 2023

1 (1 to 4)

<p style="text-align: right;">1</p> <p>2 HEARING OF THE</p> <p>3 SENATE COMMITTEE ON HEALTH, EDUCATION,</p> <p>4 LABOR, AND PENSIONS</p> <p>5 UNITED STATES SENATE</p> <p>6</p> <p>7</p> <p>8 STEPHANE BANCEL, MODERNA CEO</p> <p>9 Testifies on COVID-19 Vaccine Price Increase</p> <p>10</p> <p>11 Wednesday, March 22, 2023</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20 Job No.: 5 86</p> <p>21 Pages: 8</p> <p>22 Transcribed by: Esther M. Taylor</p>	<p style="text-align: right;">3</p> <p>SENATE COMMITTEE ON HEALTH, EDUCATION, LABOR,</p> <p>2 AND PENSIONS</p> <p>3</p> <p>4 SPEAKERS:</p> <p>5 STEPHANE BANCEL, CEO, Moderna</p> <p>6 CHRISTOPHER MORTEN, JD, PhD</p> <p>7 AMEET SARPATWARI, PhD, JD</p> <p>8 CRAIG GARTHWAITE, PhD</p> <p>9</p> <p>10</p> <p>11</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p>
<p style="text-align: right;">2</p> <p>SENATE COMMITTEE ON HEALTH, EDUCATION, LABOR,</p> <p>2 AND PENSIONS</p> <p>3</p> <p>4 BERNIE SANDERS, Vermont, Chair</p> <p>5 BILL CASSIDY, M.D., Louisiana, Ranking</p> <p>6 Member</p> <p>7 RAND PAUL, M.D., Kentucky</p> <p>8 ROBERT P. CASEY, JR., Pennsylvania</p> <p>9 MITT ROMNEY, Utah</p> <p>10 PATTY MURRAY, President Pro Tempore, Washington</p> <p>11 TOMMY TUBERVILLE, Alabama</p> <p>12 TINA SMITH, Minnesota</p> <p>13 MIKE BRAUN, Indiana</p> <p>14 JOHN HICKENLOOPER, Colorado</p> <p>15 ROGER MARSHALL, M.D., Kansas</p> <p>16 TAMMY BALDWIN, Wisconsin</p> <p>17 MARKWAYNE MULLIN, Oklahoma</p> <p>18 MAGGIE HASSAN, New Hampshire</p> <p>19 EDWARD MARKEY, Massachusetts</p> <p>20 BEN RAY LUJAN, New Mexico</p> <p>21</p> <p>22</p>	<p style="text-align: right;">4</p> <p>1 THE CHAIR: The Senate Committee on</p> <p>2 Health, Education, Labor, and Pensions will come</p> <p>3 to order.</p> <p>4 Let me begin by thanking Mr. Bancel,</p> <p>5 the CEO of Moderna, for being with us today and</p> <p>6 all other panelists who will be joining us.</p> <p>7 Mr. Bancel very early on agreed to be</p> <p>8 here voluntarily, and I appreciate that very</p> <p>9 much.</p> <p>10 I also want to take this opportunity,</p> <p>11 so there is no confusion, to congratulate</p> <p>12 Moderna, Pfizer, other companies, and the great</p> <p>13 scientists at the National Institute of Health</p> <p>14 and other Federal agencies for their</p> <p>15 extraordinary work in rapidly producing COVID</p> <p>16 vaccines that have saved millions of lives. We</p> <p>17 should be grateful to all those in Government</p> <p>18 and in the private sector who worked so hard to</p> <p>19 save lives.</p> <p>20 This hearing, to my mind, is about</p> <p>21 several enormously important and interrelated</p> <p>22 issues that are on the minds of the American</p>

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13 (49 to 52)

49	<p>1 doesn't, I lose it all.</p> <p>2 There are, right now, in our country,</p> <p>3 hundreds of startup businesses trying to develop</p> <p>4 drugs that will cure diseases.</p> <p>5 I happen to know that because I</p> <p>6 invested in some in my prior life. I lost my</p> <p>7 money in every single one. Studied them as well</p> <p>8 as we could. We lost our money. That's the</p> <p>9 nature. But we thought, if it works, we're</p> <p>10 going to really get a huge return for ourselves</p> <p>11 and for our investors.</p> <p>12 So, you know, I don't know how much</p> <p>13 money is the right amount of money, but the idea</p> <p>14 that somehow corporate greed has just been</p> <p>15 invented in America is absurd. It's been there</p> <p>16 from the beginning of free enterprise.</p> <p>17 Individuals investing, hoping that if it</p> <p>18 succeeds, they'll do very well financially,</p> <p>19 extraordinarily well. So I want to applaud the</p> <p>20 example we have.</p> <p>21 By the way, the socialist countries,</p> <p>22 China and Russia and Northern Europe, did they</p>	5	<p>1 salary of billions of dollars?</p> <p>2 MR. BANCEL: No, Senator.</p> <p>3 SEN. ROMNEY: You're a billionaire</p> <p>4 because the stock that you got when you started</p> <p>5 the company, you kept some of it, I presume.</p> <p>6 MR. BANCEL: Mm-hmm.</p> <p>7 SEN. ROMNEY: That stock is now worth</p> <p>8 a lot of money because your technology has been</p> <p>9 proven to actually work.</p> <p>10 Is it going to work beyond vaccines?</p> <p>11 And what kinds of things are you working on?</p> <p>12 MR. BANCEL: So thank you, Senator.</p> <p>13 So we are very excited because this</p> <p>14 is a platform that we worked on for 10 years.</p> <p>15 We shared, just before Christmas, exciting data</p> <p>16 in cancer, which we are very excited because, of</p> <p>17 course, all of us have been touched or are being</p> <p>18 touched right now by cancer. And we show</p> <p>19 44 percent reduction in recurrence of disease</p> <p>20 for melanoma cancer or deaths.</p> <p>21 We are working very quickly to get</p> <p>22 this to the FDA, in a Phase 3 study this year.</p>
50	<p>1 come up with a vaccine that saved lives? No.</p> <p>2 No. They didn't.</p> <p>3 Pfizer got technology from a German</p> <p>4 company, free enterprise company -- Moderna --</p> <p>5 and saved lives. It is a stark demonstration of</p> <p>6 the comparison between free enterprise and</p> <p>7 socialism. And free enterprise works and</p> <p>8 socialism doesn't when it comes to saving our</p> <p>9 lives.</p> <p>10 Now, I look at the technology which</p> <p>11 you're proposing to continue to develop in other</p> <p>12 areas, and I guess I want to ask what are the</p> <p>13 kinds of things that you're working on now?</p> <p>14 What are the prospects that you believe for some</p> <p>15 of these to make a real difference in saving</p> <p>16 lives or improving lives? Is this a one-off</p> <p>17 technology -- mRNA, is this something which is</p> <p>18 really just effective for vaccines or does it</p> <p>19 have broader application? And what will you do</p> <p>20 with the money that the company is making?</p> <p>21 By the way, I noted that you're a</p> <p>22 billionaire now. Did the company pay you a</p>	52	<p>1 We are also working with our partners at Merck</p> <p>2 to try this -- and we want to explore as many</p> <p>3 tumor types as we can to see where we can help</p> <p>4 people because if we -- if that result</p> <p>5 translates to other tumor types, which we believe</p> <p>6 should happen, we have to be careful and, of</p> <p>7 course, wait for the clinical data -- that could</p> <p>8 help a lot of people.</p> <p>9 We are also working on rare genetic</p> <p>10 diseases. One of the reasons I got excited about</p> <p>11 Moderna in the early days is, you know, I have</p> <p>12 children and --</p> <p>13 THE CHAIR: I'm sorry,</p> <p>14 Senator Romney's speech on socialism took up the</p> <p>15 bulk of the time. We have to go to</p> <p>16 Senator Murray right now.</p> <p>17 SEN. ROMNEY: As did -- as did our</p> <p>18 Chairman.</p> <p>19 SEN. MURRAY: Thank you very much,</p> <p>20 Mr. Chairman, for holding this hearing.</p> <p>21 Mr. Bancel, welcome to the Committee.</p> <p>22 You know, I understand that shifting</p>

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14 (53 to 56)

53	<p>1 from a single Federal contract to a multi-</p> <p>2 layered payer market is adding complexity to</p> <p>3 your distribution claims. But we are talking</p> <p>4 about a vaccine that taxpayers invested</p> <p>5 \$12 billion in, a vaccine that was once \$15, and</p> <p>6 now you're planning, of course, to price it at</p> <p>7 \$130 despite the fact that it just costs about</p> <p>8 \$3 to make. And that -- as we know, that cost</p> <p>9 is going to get passed on to consumers whether</p> <p>10 it's through higher premiums or higher</p> <p>11 administration fees.</p> <p>12 So I want to know what is your answer</p> <p>13 to this Committee and really to the public about</p> <p>14 the need for such a drastic quadrupling of the</p> <p>15 cost.</p> <p>16 MR. BANCEL: Thank you, Senator, for</p> <p>17 the question.</p> <p>18 So, first, just to precise some</p> <p>19 numbers. The U.S. Government invested</p> <p>20 \$1.7 billion in the vaccine development. The</p> <p>21 rest of the amount that you mentioned was</p> <p>22 actually purchase of product -- not investment</p>	55	<p>1 In addition, the Government got</p> <p>2 \$5 trillion of economic value, 18 million</p> <p>3 hospitalization less, impact on humans and the</p> <p>4 cost of it, and 3 million lives saved.</p> <p>5 So in the endemic setting, the</p> <p>6 challenge that we have is -- as I mentioned in</p> <p>7 my opening testimony, the wastage we're going to</p> <p>8 have to take care of.</p> <p>9 So, first, we have to make more</p> <p>10 product than we think we will sell because we</p> <p>11 cannot have patients going to pharmacies and</p> <p>12 having no supply. And this is a very hard</p> <p>13 business, very complex because it's a seasonal</p> <p>14 product.</p> <p>15 The FDA currently plans to tell us</p> <p>16 they think late May/early June, what they want</p> <p>17 in the vial. We're going to spend the whole</p> <p>18 summer making as much as we can. And what we</p> <p>19 know is the forecast is going to be wrong. The</p> <p>20 forecast are always wrong.</p> <p>21 And so the question to protect</p> <p>22 people, we need to make more than we think is</p>
54	<p>1 in the development.</p> <p>2 As I said in my oral testimony, we</p> <p>3 decided -- and this was discussed at our Board.</p> <p>4 This was not asked of us by the Government.</p> <p>5 We, in the letter I wrote to the</p> <p>6 Government, when we started discussing about</p> <p>7 procuring the vaccine in September of 2020, we</p> <p>8 proposed a discount. It was not asked of us.</p> <p>9 We discussed with our Board and we</p> <p>10 said if the vaccine work -- in September 2020,</p> <p>11 we had no idea. The Phase 3 came in November,</p> <p>12 the data -- if the vaccine work, we think it's</p> <p>13 our responsibility to return the capital to tax</p> <p>14 payers. And we returned, as I mentioned,</p> <p>15 \$2.9 billion in discount versus the -- mRNA</p> <p>16 vaccine that the Government procured.</p> <p>17 So despite our vaccine having three</p> <p>18 times more mRNA in it -- 100 microgram versus</p> <p>19 the other one was 30 microgram, we discounted</p> <p>20 our product to return \$2.9 billion to the U.S.</p> <p>21 taxpayer. We thought it was the right thing to</p> <p>22 do, to say thank you to the Government.</p>	56	<p>1 going to be needed. That waste, we're going to</p> <p>2 have to pay for it.</p> <p>3 What happened in the fall of 2022,</p> <p>4 which I think is an important way to think about</p> <p>5 it -- the U.S. Government purchased 160 million</p> <p>6 doses. The last number I got from CDC, around</p> <p>7 50 million doses got in arms, but the Government</p> <p>8 bought everything. So the difference,</p> <p>9 110 million doses might go to waste, in the</p> <p>10 garbage.</p> <p>11 So saying that the cost of the</p> <p>12 vaccine before was \$20, I don't think is the</p> <p>13 right way to do the cost. It's not the cost to</p> <p>14 the U.S. taxpayer. The U.S. taxpayer paid for</p> <p>15 everything. If you do the math, it's around</p> <p>16 \$80.</p> <p>17 The cost in the fall of 22, still</p> <p>18 with five product in the vial.</p> <p>19 SEN. MURRAY: Okay. Well, I</p> <p>20 understand that, and I just have a minute here</p> <p>21 left. I want to ask a couple of questions.</p> <p>22 You are talking about having a</p>

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20 (77 to 80)

77	<p>1 that are making a claim that you had a patent</p> <p>2 infringement. I'm hearing that not only here,</p> <p>3 but patent tweaking, patent infringements, when</p> <p>4 it comes to where we spend even more money on</p> <p>5 biologics and biosimilars.</p> <p>6 Point being, whether it's the</p> <p>7 Government paying for it or the private sector,</p> <p>8 it's a broken system and you need to get better</p> <p>9 at it or you're going to get solutions in the</p> <p>10 long run that you don't like.</p> <p>11 Your distribution system -- why is it</p> <p>12 something that you sound like you gotta recreate</p> <p>13 it? Where has it been up to this point? How do</p> <p>14 you distribute your flu vaccines? Why do you</p> <p>15 need this much money? A 400 percent price</p> <p>16 increase is preposterous, especially when you've</p> <p>17 been given all this Government largess and it's</p> <p>18 even going to protect you from these lawsuits.</p> <p>19 What's the nature of your current</p> <p>20 distribution system to where you can't just put</p> <p>21 this into it, and why is this that much</p> <p>22 different than what you've done for years in</p>	79	<p>1 contracts.</p> <p>2 During the pandemic, we only shipped</p> <p>3 trucks to three warehouses in the U.S. when the</p> <p>4 CDC was taking the responsibility and the cost</p> <p>5 of getting the vaccine to hospitals, pharmacies</p> <p>6 --</p> <p>7 SEN. BRAUN: Is Government requiring</p> <p>8 you to do something different here that would</p> <p>9 cause you to use a different network?</p> <p>10 What do McKesson and Cardinal and the</p> <p>11 others do? There's a network to get this stuff</p> <p>12 to pharmacies already and the places they need</p> <p>13 to go. Why can't you blend it into that, keep</p> <p>14 the cost down, be a little entrepreneurial in</p> <p>15 what you're doing?</p> <p>16 MR. BANCEL: It's part of the</p> <p>17 solution we're going to be doing, Senator, is</p> <p>18 we're going to use existing networks, but we</p> <p>19 have to set up everything because we never had a</p> <p>20 commercial product before. We just have to go,</p> <p>21 which we are doing right now, through all the</p> <p>22 contracting, negotiating of all those rights and</p>
78	<p>1 distributing a flu vaccine? Because it looks</p> <p>2 like we're headed more to where this is going to</p> <p>3 be like the flu than it's going to be something</p> <p>4 extra normal.</p> <p>5 MR. BANCEL: Thank you, Senator, for</p> <p>6 your question.</p> <p>7 So just to clarify, we do not have a</p> <p>8 flu vaccine on the market yet. We have one in</p> <p>9 clinical study. We should have a Phase 3 data</p> <p>10 soon and hopefully --</p> <p>11 SEN. BRAUN: You may not have one on</p> <p>12 the market, but there's a distribution network</p> <p>13 for them from your competitors. Why wouldn't</p> <p>14 you be able to get into that? Why do you have</p> <p>15 to justify creating a new distribution network?</p> <p>16 No one would ever do that.</p> <p>17 MR. BANCEL: So indeed, Senator, we</p> <p>18 are going to use, but we have to set up the</p> <p>19 distribution network. I'm not saying that we</p> <p>20 are going to build our own warehouses like other</p> <p>21 companies do. We are going to work with</p> <p>22 companies, but we have to set up those</p>	80	<p>1 so on to set up the distribution capability so</p> <p>2 that we can get the vaccine to pharmacies.</p> <p>3 SEN. BRAUN: I've run out of time.</p> <p>4 You cannot, as well as the rest of the industry</p> <p>5 including hospitals, have the best of both</p> <p>6 worlds where you want Government to be in there</p> <p>7 helping you when it's tough and where for the</p> <p>8 private side, most of us are not happy with the</p> <p>9 fact that we're lucky if your health insurance</p> <p>10 plan only goes up 5 to 10 percent, which</p> <p>11 incorporates hospitals, pharma, and maybe the</p> <p>12 Darth Vader of it all, the insurance business.</p> <p>13 Somethings got to give or you're</p> <p>14 going to get more Government involved in</p> <p>15 healthcare. Thank you.</p> <p>16 THE CHAIR: Senator Hickenlooper.</p> <p>17 SEN. HICKENLOOPER: Thank you,</p> <p>18 Mr. Chair.</p> <p>19 Mr. Bancel, thank you for coming in</p> <p>20 and testifying before us.</p> <p>21 It really is a remarkable, if you</p> <p>22 look at the arc of what happened and you look at</p>

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21 (81 to 84)

8	<p>1 it -- actually take it all the way back to when</p> <p>2 Moderna was founded in 2010 and you came on</p> <p>3 board in 2011. I look at so many moments of</p> <p>4 risk and how many times -- I don't want to alarm</p> <p>5 anyone, but the company could be at risk when</p> <p>6 your margins were so thin, you didn't have</p> <p>7 sufficient money to invest.</p> <p>8 And I think the notion of what the</p> <p>9 Federal Government did during a time of crisis</p> <p>10 where we made, I think, the decision baked in</p> <p>11 wisdom to pursue six different solutions. I'm</p> <p>12 talking about multiple working hypotheses.</p> <p>13 And in your case, the Federal</p> <p>14 Government, BARDA, provided, I think, it was</p> <p>15 \$1.7 billion in your statement, you said. And</p> <p>16 that was money that really was after the earlier</p> <p>17 investments, which were largely in research and</p> <p>18 those are public-private partnerships that have</p> <p>19 -- that money is invested. We do that --</p> <p>20 Government does that in all different levels.</p> <p>21 In this case, the \$1.7 billion, you</p> <p>22 actually turned 2.9 billion? 2.8?</p>	83
82	<p>1 I believe Moderna would have got the</p> <p>2 vaccine approved without the funding, but it</p> <p>3 will not happen by the end of the year, so</p> <p>4 Americans' lives would have been impacted by</p> <p>5 that delay without the support.</p> <p>6 And so when we looked at it, we --</p> <p>7 like, if we're going to get, you know, the</p> <p>8 vaccine to work, we should provide a discount.</p> <p>9 And the Board decided in five minutes and that's</p> <p>10 what I put in my letter that I sent to the</p> <p>11 Government in our first discussions for</p> <p>12 procurement.</p> <p>13 SEN. HICKENLOOPER: And I did an</p> <p>14 interesting calculation to look at how many</p> <p>15 lives were saved by accelerating that process</p> <p>16 with that \$1.7 billion that was paid back almost</p> <p>17 not quite double, but certainly more than just</p> <p>18 paying it back.</p> <p>19 And I am sympathetic to some of the</p> <p>20 issues as you look at pricing going forward that</p> <p>21 this is something that has to be kept at a cold</p> <p>22 temperature, you're going from one customer to</p>	84
82	<p>1 MR. BANCEL: 2.9 billion.</p> <p>2 SEN. HICKENLOOPER: \$2.9 billion.</p> <p>3 What was part of your motivation and that?</p> <p>4 MR. BANCEL: Thank you, Senator, for</p> <p>5 the comments and for the question.</p> <p>6 It's actually quite simple. As we</p> <p>7 were starting, so there were two moments during</p> <p>8 the pandemic in partnership with the Government.</p> <p>9 First, focus on the vaccine development and</p> <p>10 accelerate it. That's what BARDA funding</p> <p>11 provided.</p> <p>12 Then we started to discuss with the</p> <p>13 Government toward the end of the summer 2020</p> <p>14 about purchasing vaccine in case the FDA will</p> <p>15 approve them. And as we started to have those</p> <p>16 discussions, we started to discuss with our</p> <p>17 Board. And it became very clear, like, a five-</p> <p>18 minute discussion at a Board meeting, that we</p> <p>19 had to find a way to give the money back to the</p> <p>20 U.S. Government because we all felt very</p> <p>21 grateful that thanks to that funding, we were</p> <p>22 able to accelerate the vaccine.</p>	84



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46 (181 to 184)

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*Esther M. Taylor*

ESTHER M. TAYLOR

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